Heating chambers with forced convection
The multi-talented BINDER FED series provides almost unlimited capacity and is particularly adaptable. With advanced timing functions and a digitally controllable fan, temperature and convection conditions are easily controlled.

Advantages:

- Fast, even tempering
- Wide temperature range
- "Made in Germany" quality

Areas of application:

Electronics / Semiconductor Industry

Basic Research / Research Institutes

Plastics Industry

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Features	Customer benefits	Characteristics
APT.line™	• Quick drying • Identical test conditions throughout the chamber interior • Independent of specimen size and quantity	**APT.line™ for maximum precision** • Uniform circulation even under full load • Homogeneous temperature conditions throughout specimen material
Temperature range	• Broad range of applications • Short warm up times	**Standard up to 300 °C** • Large power reserves
Inner chamber concept	• Maximum occupational safety • Easy loading and unloading of specimen material • Easy cleaning	**Inner chamber made of stainless steel** • Very tight door closure with 2-point door latch • Low heat dissipation due to 60 mm insulation • Rack with tilt protection • No permanent fixtures
Standard equipment	• Reliable, easy handling	**Comprehensive standards** • Microprocessor control • Ergonomically positioned controller. • RS 422 interface • PT 100 temperature sensor
Quality	• Reliable devices with long service lives • Short delivery times • Minimal maintenance and operating costs	**Premium quality** • Highly automated • Series production • High-quality materials, state-of-the-art production technology • High standard according to DIN 12880 (27-point measurement)
Accessories and Services	• Flexible solution in terms of size, type and equipment • Optimal solution for numerous applications • BINDER INDIVIDUAL for customer-specific solutions • Worldwide BINDER Service	**Comprehensive product portfolio** • Size 53 to 720 liters • Additional product lines with humidity, light, CO2 or vacuum • Voltage variants (UL) and certificates • Various options: Door with viewing window, access ports, reinforced shelves, Data Logger Kits • Worldwide service network

- Electronically controlled APT.line™ preheating chamber assuring temperature accuracy and reproducible results
- Temperature range from 5 °C above ambient temperature to 300 °C
- MS controller with several timer functions
- Controller timer functions: delayed ON, delayed OFF, temperature dependent delayed OFF
  - Digital temperature setting with an accuracy of one degree
- Adjustable fan speed
- Adjustable ventilation by means of front ventilation flap slide and rear exhaust Ø 50 mm
- Independent adjustable temperature safety device class 2 (DIN 12880), with visual temperature alarm
- RS 422 interface for use with APT-COM™ DataControlSystem communication software or switch over to printer output with RS 232 / RS 422 interface converter
- Units up to 115 liters are stackable
- 2 chrome-plated racks included
- BINDER test certificate

FED 240

►

Exterior dimensions	
Width (mm)	1034
Height (incl. feet) (mm)	822
Depth (mm)	745
Plus door handle and connection (mm)	105
Wall clearance, rear (mm)	100
Wall clearance, side (mm)	160
Exhaust duct (outer Ø mm)	52
Steam space volume (l)	308
Number of doors (ea.)	2

►

Interior dimensions	
Width (mm)	800
Height (mm)	600
Depth (mm)	500
Interior volume (l)	240
Racks (number standard/max.)	2 / 7
Load per rack (kg)	30
Permitted total load (kg)	70
Weight (empty) (kg)	96

►

Temperature data	
Temperature range approx. 5 °C above ambient temperature to (°C)	300
Temperature variation	
at 70 °C (± K)	0,8
at 150 °C (± K)	2
at 300 °C (± K)	4,3
Temperature fluctuation (± K)	0,3
Warm-up time 1)	
to 70 °C (min.)	12
to 150 °C (min.)	27
to 250 °C (min.)	50
Recovery time after doors were open for 30 sec. 1)	
at 70 °C (min.)	2
at 150 °C (min.)	10
at 300 °C (min.)	16

FED 240

▶

Ventilation data	
Ventilation	
at 70 °C (x/h)	19
at 150 °C (x/h)	20
at 300 °C (x/h)	18

▶

Electrical data	
IP protection class acc. to EN 60529	IP 20
Voltage (± 10%) 50 / 60 Hz (V)	230
Nominal power (kW)	2,7
Energy consumption	
at 70 °C (W)	370
at 150 °C (W)	850
at 300 °C (W)	1400

1) To 98% of the set value

All technical data are specified for units with standard equipment at an ambient temperature of 25 °C and a line voltage fluctuation of ±10%. The temperature data is determined in accordance to factory standard following DIN 12880, respecting the recommended wall clearances of 10% of the height, width and depth of the inner chamber. All data was determined at 100% of fan speed. All figures are typical average values for series devices. We reserve the right to alter technical specifications at any time.

Numerous access ports

With silicone plugs for introducing external measuring instruments into the chamber, access ports with 10, 30, 50, 100 mm diameters.

Door with window and interior lighting

For optimal process control in the inner chamber, available for all device sizes.

Door lock

Prevents unauthorized access to the process sequences in the chamber.

Calibration certificate & validation

BINDER can significantly reduce the workload in qualifying and validating devices. Nobody knows our devices as well and has as much experience in certifications as we do.

BINDER
Best conditions for your success

FED 240

Access ports with silicone plug, 10, 30, 50, 100 mm	O
HEPA fresh-air filter, Class H 14 (according to EN 1822, min. 99.995% for 0.1-0.3 µm particles)	O
Fasteners for additional security for racks (1 set of 4)	O
Anti-slip rubber pads for safe stacking (1 set of 4 pieces)	O
Independent temperature safety device class 3.1 (DIN 12880) with optical alarm	O
Analog output for temperature 4 - 20 mA with 6-pin DIN socket (output not adjustable)	O
Switchable audible alarm for over temperature. Adjustable limit on the independent temperature safety device	O
Temperature measurement acc. to DIN 12880 at 150 °C or at specified testing temperature with measuring protocol and certificate	O
Calibration certificate, measurement in center of chamber at 150 °C or at specified testing temperature	O
Extension to calibration certificate. Each additional measurement at additional measuring point or testing temperature	O
Data Logger Kit T 350: For continuous temperature recording of 0 °C to 350 °C. Kit includes 1 data logger, PT 100 sensor with 2 m Teflon extension cable and 1 fixture for mounting to the BINDER unit	O
Data Logger Software: Configuration and evaluation software for all BINDER Data Logger Kits, incl. data cable	O
Rack, chrome-plated	O
Rack, stainless steel	O
Reinforced rack, stainless steel, with 1 set of fasteners (4 pieces), max. load 70 kg	O
Perforated shelf, stainless steel	O
Door lock	O
Door gasket, FKM (Viton)	O
Reinforced inner chamber, including 2 reinforced racks (maximum total load 270 kg, max. load per rack 70 kg)	O
2 doors each with window 350 x 240 mm and interior lighting (30 W)	O
Increased air-exchange rate through high-performance fan	

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